



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,255	04/24/2001	Nobuyuki Kambe	2950.01US02	6755

7590

10/28/2002

Peter S. Dardi
Patterson, Thunte, Skaar & Christensen, P.A
4800 IDS Center
80 South 8th Street
Minneapolis, MN 55402-2100

EXAMINER

KOSLOW, CAROL M

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 10/28/2002

/3

Please find below and/or attached an Office communication concerning this application or proceeding.

T-10

Office Action Summary	Application No.	Applicant(s)	
	09/841,255	KAMBE ET AL.	
	Examiner	Art Unit	
	C. Melissa Koslow	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-10,12-15 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10,12-15 and 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1755

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 September 2002 has been entered.

Applicant's arguments have been fully considered but they are not persuasive.

The references cited in the Information Disclosure Statement of 8 February 2002 having a line drawn through them were cited by the examiner in the office action of 28 September 2001.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 15, 23 and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9 and 13 of copending Application No. 09/136,483. Although the conflicting claims are not identical, they are not patentably distinct from each other because the polishing composition of claims 9 and 13 of Application No. 09/136,483 suggests the polishing composition and method of claims 15, 23 and 25 of the present application.

Art Unit: 1755

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 9 of Application No. 09/136,483 teaches a polishing composition comprising a dispersion of alumina particles, where the particles have an average particle diameter from about 5 nm to about 500 nm and where less than one in 10^6 particles have a diameter greater than three times the average particle size and claim 13 teaches this dispersion is an aqueous dispersion. Applicants have defined the phrase “effectively no particles” as meaning less than one in 10^6 particles on page 20, lines 4-12 of the specification. Thus claim 9 teaches a dispersion containing effectively no particles having a diameter greater than three times the average particle size. Since the claims teach a polishing dispersion, one of ordinary skill in the art would have found it obvious to use this polishing dispersion to polish or smooth a surface using the claimed composition.

Claims 1-4, 6, 15 and 23-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 14-18, 24 and 26 of copending Application No. 09/433,202. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed particle dispersion and claimed method of polishing using the particle dispersion of Application No. 09/433,202 suggest the polishing compositions and polish method claimed in the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 1 of Application No. 09/433,202 teaches a particle dispersion comprising a liquid and particles having an average particle diameter from about 5 nm to about 50 nm and where less

Art Unit: 1755

than one in 10^6 particles have a diameter greater than three times the average particle size.

Applicants have defined the phrase “effectively no particles” as meaning less than one in 10^6 particles on page 20, lines 4-12 of the specification. Thus claim 1 teaches a dispersion containing effectively no particles having a diameter greater than three times the average particle size.

Claims 3 and 4 teaches the particles can be composed of silica, silicon carbide, silicon nitride and metal oxides. Claims 14-18 teaches the liquid can be water, an aqueous solution or an organic liquid, which is a nonaqueous solution. Claim 24 teaches the particles have a distribution such that at least 95% of the particles have a diameter greater than 40% of the average diameter and less than 160% of the average diameter. Claim 26 teaches using the claimed dispersion as a polishing composition, which suggests smoothing a surface by polishing the surface with the claimed composition.

Claims 1-4 and 6-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of Patent Application Publication No. 2001/0000912. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed polishing compositions and methods of Patent Application Publication No. 2001/0000912 suggest the polishing compositions and methods claimed in the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1 and 5 of Patent Application Publication No. 2001/0000912 teach a polishing compositions comprising particles of metal compounds having an average diameter in the range of about 5-100 nm and a distribution where at least 95% of the particles have a diameter greater

Art Unit: 1755

than 60% of the average diameter and less than 140% of the average diameter. Claims 2 and 3 teach the particles are dispersed in an aqueous or nonaqueous solution. Claim 4 teaches the composition of the particles. These are the same compositions claimed in the present application. Claims 6-8 of Patent Application Publication No. 2001/0000912 teach smoothing a surface using the composition of claim 1 using a polishing pad or a motorized polisher.

Applicants argue the above rejection are improper because an earlier filed application should not subject to an obviousness-type double patenting rejection over a later filed application since the effective patent term of the later filed application cannot be unjustly extended by an earlier filed application. This argument is not convincing since there are at least two reasons for making a judicially created double patenting rejection in an application subject to a 20-year term under 35 U.S.C. 154(a)(2) and insisting upon a terminal disclaimer to overcome the rejection. First, 35 U.S.C. 154(b) includes provisions for patent term extension based upon prosecution delays during the application process. Thus, 35 U.S.C. 154 does not ensure that any patent issuing on a utility or plant application filed on or after June 8, 1995 will necessarily expire 20 years from the earliest filing date for which a benefit is claimed under 35 U.S.C. 120, 121, or 365(c). Second, 37 CFR 1.321(c)(3) requires that a terminal disclaimer filed to obviate a judicially created double patenting rejection include a provision that any patent granted on that application be enforceable only for and during the period that the patent is commonly owned with the application or patent which formed the basis for the rejection. This requirement serves to avoid the potential for harassment of an accused infringer by multiple parties with patents covering the same patentable invention (37 CFR 1.601(n)). See, e.g., *In re Van Ornum*, 686 F.2d 937, 944-48, 214 USPQ 761, 767-70 (CCPA 1982). Not insisting upon a terminal disclaimer to

Art Unit: 1755

overcome a judicially created double patenting rejection in an application subject to a 20-year term under 35 U.S.C. 154(a)(2) would result in the potential for the problem that 37 CFR 1.321(c)(3) was promulgated to avoid. See MPEP 804.02.

Claims 1, 4, 6, 15 and 25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4-8 and 11 of U.S. Patent No. 6,290,735. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed polishing compositions and methods of Patent No. 6,290,735 suggest the polishing compositions and methods claimed in the present application.

Claims 1, 2 and 4 of U.S. Patent No. 6,290,735 teach a polishing composition comprising particles of metal carbides having an average diameter in the range of about 5-50 nm. Claims 7 and 8 teaches the metal carbide can be SiC, WC, Fe₃C or Fe₇C₃. Claim 5 teaches the composition has effectively no particles having a diameter greater than about 5 times the average diameter and claim 11 teaches the particles in the composition has a distribution where at least 95% of the particles have a diameter greater than 60% of the average diameter and less than 140% of the average diameter. Since the claims teach a polishing dispersion, one of ordinary skill in the art would have found it obvious to use this polishing dispersion to polish or smooth a surface using the claimed composition.

Applicants' comments with respect to filing a terminal disclaimer to overcome the above rejection are noted.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 1755

Claims 15 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 554,908.

This reference teaches alumina particles, which are to be used in a polishing slurry. Example 2 teaches alumina particles where substantially all of the particles have a particle size in the range of 20-50 nm and that is a substantial absence of particles, or effectively no particles, having a particle size greater than 100 nm. Since substantially all the particles have a size in the range of 20-50 nm, the average particle size must be within the claimed range. Thus the dispersion of example 2 have effectively no particles having a diameter of greater than 100nm, which is less than five times any number in the range of 20-50. Since the reference teaches the particles are used in a polishing slurry, it implicitly teaches a polishing dispersion and the use of this slurry to smooth a surface or polish a surface. The claimed dispersions and methods read upon those taught by the reference.

The fact page 5, lines 35-44 teaches alumina particles having an average particles size of 20-50 nm and containing less than 5% particles having a size greater than 100nm does not show the reference does not teach the claimed compositions, since example 2 teaches an embodiment that falls within the claimed composition. "As a general principle it has long been held, even where the issue was one of obviousness and not clear anticipation or description, that the comprehensiveness of a reference disclosure does not derogate from its teaching effect."

Merck Co. v. Biocraft Laboratories Inc. 10 USPQ 2d 1843 (Fed. Cir. 1989); *In re Corkill* 226 USPQ 105 (Fed. Cir. 1985); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Lemin* 141 USPQ 814 (CCPA 1964); *In re Rosicky* 125 USPQ 341 (CCPA). Applicants comments with respect to the

Art Unit: 1755

case law cited by the Examiner are noted. This case law was cited in response to applicants' arguments with respect to the teaching on page 5. Applicants are also directed to MPEP 2123.

Applicants argue figure 1 of the reference shows the statement in example 2 that there is a substantial absence of particles over 100 nm and the statement in the description of the figure 1 that there are very few particles larger than 50 nm are incorrect according to their measurements. Applicants have not provided any evidence to support their conclusions with respect to the particles shown by figure 1. Given the poor quality of the micrograph of figure 1, applicants have also not explained why one of ordinary skill in the art would assume the argued particles sizes obtained from figure 1 are correct and the results of example 2 and the description of figure 1 in the body of the reference are incorrect. In additions applicants have not stated how they determined the argued particles sizes. Applicants state the written description of in figure 2 is vague and unclear, but they have not presented any evidence to support this assertion nor have they submitted any evidence that one of ordinary skill in the art cannot understand the teaching in example 2. Applicants argue "substantial absence of particles over 100 nm" does not mean "effectively no particles over 100 nm" but they have not presented any evidence to support this assertion. The definition of "substantial absence of particles over 100 nm" based upon the dictionary definitions of the terms in the phrase is that there are effective no particles over 100 nm. The rejection is maintained.

Claims 1, 2, 4, 6-8, 15, 23 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gutsche.

This reference teaches a polishing slurry consisting of an aqueous solution and silica particles. The example teaches a dispersion of silica particles having a particle size of 25-30 nm,

Art Unit: 1755

which means all the particles have a size within this range and that the average particle size is also within this range. Since all the particles are within this range, there are no particles having a particles size that is greater than 5 times the average particles size and all the particles have a particles that is greater than 60% of the average size and less than 140% of the average particle size. The example teaches smoothing surface using this composition, where the polishing is performed using a polishing pad in a motorized polisher. The claimed dispersions and methods read upon those taught by the reference.

Applicants argue there is no characterization of the commercial silica. Applicants are referred to column 3, lines 43-45 which provided the characterization of SYTON HT 40, a commercial suspension of colloidal silica. Applicants argue the Examiner's interpretation of the phrase "a particle size" is incorrect and that the only reasonable interpretation of this statement is that it is the average particles size. Applicants have not provided any evidence or explanation to support this assertion. There is nothing in the reference to indicate that the phrase "particle size" has any other meaning than its conventional meaning. The words in a patent must be given their plain meaning, absent any definition of the words in the patent. *In re Sneed*, 710 F.2d 1544, 218 USPQ 385 (Fed. Cir. 1983).

Applicants state they attached a copy of information on SYTON HT50 from the manufacturer's web site, but this material was not attached to the amendment. Without this reference, there is no support for applicants assertion that "a particle size", when used by the manufacture refers to average particle size. The rejection is maintained.

Claims 1, 4, 6, 9, 10, 12-15 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al.

Art Unit: 1755

This reference teaches silica particles used in polishing slurries. The particles have a monodispersed uniform particles size of 50 nm or less. Examples 1, 3 and 4 teaches uniform silica particles all have a particle size of 25, 42 or 17 nm and a purity of greater than 99.9%. The taught silica particles have a single crystal phase and figure 1 and the statement that the particles are uniform means the particles have a uniformity of 100%. Since the reference teaches the particles are used in a polishing slurry, it implicitly teaches a polishing dispersion and the use of this slurry to smooth a surface or polish a surface. The claimed dispersions and methods read upon those taught by the reference.

Applicants argues the term “highly” in the phrase “highly monodispersed” is a relative term that does not qualify the degree of uniformity and that there is no indication of the degree of uniformity. While the term “highly” is relative, examples 1, 3 and 4 and figure 1 show the particles have a single or uniform particle size. Thus the reference does provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art is reasonably apprised of the scope of the term. Applicants argue there is no information to in the examples of in figure 1 to provide the meaning of “highly” monodispersed. Applicants are referred to in column 6, lines 36-340, and Table 2 which state the particle size of the silica particles is 25, 42 or 17 nm and that figure 1 shows the 25 nm particles of example 1. Applicants argue figure 1 is insufficient to evaluate the presence of smaller particles, but there is no indication in the reference that there are smaller particles, have applicants presented any evidence that one of ordinary skill in the art, when reading the patent, would assume that the process of example 1 would produce smaller particles, nor have they presented any evidence that one of ordinary skill in the art could not

Art Unit: 1755

determine the meaning of “highly monodispersed” from reading the patent. The rejection is maintained.

Claims 1, 2, 4, 6, 7, 9, 15, 23 and 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rostoker et al (U.S. Patent 5,389,194).

This reference teaches a method of polishing a surface using a polishing composition composed of particles dispersed in an aqueous solution where the polishing is performed using a polishing pad. The taught particles are composed of alpha alumina or silica particles. Example 3 teach these particles are composed of at least 90% of alpha alumina particles, where the particles have an average particle size of 10 nm (the X value) and a distribution where all the particles have a size within 10% of the average particles size (the Y value). This means that all the particles are within the range of 10% of the average particle size and 110% of the average particles size. Accordingly, there are no particles have a size greater than 5 times the average particle size. The claimed dispersions and methods clearly read upon those taught.

Claims 1, 2, 4, 6, 7, 9, 15, 23 and 25 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rostoker (U.S. Patent 5,626,715).

This reference teaches a method of polishing a surface using a polishing composition composed of particles dispersed in an aqueous solution where the polishing is performed using a polishing pad. The taught particles are composed of alpha alumina or silica particles. Example 3 teach these particles are composed of at least 90% of alpha alumina particles, where the particles have an average particle size of 10 nm (the X value) and a distribution where all the particles have a size within 10% of the average particles size (the Y value). This means that all the particles are within the range of 10% of the average particle size and 110% of the average

particles size. Accordingly, there are no particles have a size greater than 5 times the average particle size. The claimed dispersions and methods clearly read upon those taught.

The declaration under 37 CFR 1.132 filed 21 December 2001 is insufficient to overcome the rejection of claims 1, 2, 4, 6, 7, 9, 15, 23 and 25 based upon Rostoker et al ('194) and Rostoker ('715) as set forth in the last Office action because it criticizes one possible method of determining Q, as defined in column 7, lines 19-22 of '194 and column 6, lines 21-24 of '715. Since every patent is presumed valid (35 U.S.C. 282), and since that presumption includes the presumption of operability (*Metropolitan Eng. Co. v. Coe*, 78 F.2d 199, 25 USPQ 216 (D.C.Cir. 1935), affidavits or declarations attacking the operability of a patent cited as a reference must rebut the presumption of operability by a preponderance of the evidence. *In re Sasse*, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). This includes criticisms of the methodology used to obtain values in a patent. There has been no showing of a preponderance of evidence that the Q value cannot be determined by the disclosed method. Given the other teachings in the patents that Q is inversely proportional to Y, the fact the patents give actual numerical values for Q and the teachings of the examples where the size distribution of the particles are clearly stated, the fact the criticized method for determining Q might be unclear to Dr. Singh and not found in the books cited by Dr. Singh does not detract from rest of the teachings of these patents nor does it show the Q value cannot be determined by one of ordinary skill in the art. This critique does not show the claimed particles are different and unobvious over those claimed. Dr. Singh's comments with respect to the Siegel patent are given no weight since he has not provided any factual evidence to support his conclusion and the fact the Siegel patent is not part of the rejection. The sentence in lines 2-4 on page 5 that he is unaware of any other methods of making the claimed particles

amount to an affirmation that the affiant has never seen the claimed subject matter before. This is not relevant to the issue of nonobviousness of the claimed subject matter and provides no objective evidence thereof. See MPEP § 716.

Applicants state they do not understand why Dr. Singh's declaration is not a preponderance of evidence that the value of Q cannot be determined, i.e. that the patents are non-operable, or in other words, non-enabling and thus are invalid. The legal standard of "a preponderance of evidence" requires the evidence to be more convincing than the evidence which is offered in opposition to it. The validity of the patents is more convincing that Q can be determined than the statements in the declaration that it cannot be determined. It is noted applicants admitted in the parent application, in the response of 18 July 2000, that they consider the patents are valid and thus enabling and operable.

Applicants argue the examples are prophetic, but they have not provided any evidence to support this conclusion. The fact they are written in present tense does not automatically mean they are prophetic. Even if they are prophetic, this asserted fact does not overcome the rejections. The Court held that "The mere fact that something has not previously been done clearly is not, in itself, a sufficient basis for rejecting all applications purporting to disclose how to do it." *Gould v. Quigg*, 822 F.2d at 1078, 3 USPQ2d at 1304 (quoting *In re Chilowsky*, 229 F.2d 457, 461, 108 USPQ 321, 325 (CCPA 1956)). The specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation. *In re Borkowski*, 422 F.2d 904, 908, 164 USPQ 642, 645 (CCPA 1970). See MPEP 2164.02.

Art Unit: 1755

Applicants argue the distribution of particles cannot be represented by the formula $X \pm (PX)/100$ because of the definition of Y when it is related to Q. It is noted that the patents use the variable “Y” to refer to both the distribution of particles about X in terms of nm ($PX/100$) (‘194: col. 7, lines 608; ‘715: col. 6, lines 8-9 and claims 2, 3, 12 and 14) and as the dimensionless percentage (P) (‘194: col. 7, lines 12-15, claim 10 and examples 1 and 3; ‘715: col. 6, lines 14-17, claims 1 and 9 and examples 1 and 3). Thus there is no implication that $Q=1/Y$ must have the dimensions of 1/distance. Applicants argue the Examiner’s definition is stated nowhere in the patents, but as pointed out above, it taught in ‘194 in column 7, lines 608 and in ‘715 in column 6, lines 8-9 and in claims 2, 3, 12 and 14. While the patents use two different definitions for Y, the patents clearly distinguish between the definitions by using either “nm” or “%”. Thus one of ordinary skill in the art could clearly understand which definition is being used in the different sections of the patents. Applicants’ criticism of the method of determining Q is noted but is given little weight for the reasons given above. Applicants’ comments that the distributions of the patent cannot be Gaussian, despite the fact the patents state they are, are given no weight since applicants have not provided any qualitative evidence supporting these comments. The rejections are maintained.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 554,908 in view of Sandhu et al, Rostoker, Rostoker et al and Gutsche.

As stated above, EP 554,908 teaches the claimed polishing compositions comprising a dispersion of alumina particles. This reference does not teach the composition of the liquid used in the polishing composition, but one of ordinary skill in the art would have found it obvious to use liquids conventionally used in polishing compositions. Sandhu et al, Rostoker, Rostoker et al

Art Unit: 1755

and Gutsche all teach aqueous and nonaqueous solutions are conventionally used in polishing compositions. Thus one of ordinary skill in the art would have found it obvious to use an aqueous solution as the liquid in the taught polishing composition. The references suggest the claimed composition.

Applicants' argument with respect to this rejection are noted but are not convincing since their arguments with respect to the primary reference were not convincing. The rejection is maintained.

Claims 2, 3, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al in view of Sandhu et al, Rostoker, Rostoker et al and Gutsche.

As stated above, Shimizu et al teach the claimed polishing compositions comprising a dispersion of silica particles. This reference does not teach the composition of the liquid used in the polishing composition, but one of ordinary skill in the art would have found it obvious to use liquids conventionally used in polishing compositions. Sandhu et al, Rostoker, Rostoker et al and Gutsche all teach aqueous and nonaqueous solutions are conventionally used in polishing compositions. Thus one of ordinary skill in the art would have found it obvious to use an aqueous solution as the liquid in the taught polishing composition. The references suggest the claimed composition.

Applicants' argument with respect to this rejection are noted but are not convincing since their arguments with respect to the primary reference were not convincing. The rejection is maintained.

Claims 1, 2, 4, 6-9, 12, 15, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker or Rostoker et al.

Art Unit: 1755

Both of these references teach a method of polishing a semiconductor surface using a polishing composition composed of particles dispersed in an aqueous solution where the polishing is performed using a polishing pad. While the references do not teach the polishing is preformed with a motorized polisher, one of ordinary skill in the art would have found it obvious to use a motorized polisher since motorized polishers are conventionally used to polish as semiconductor surface in combination with a polishing composition. The particles are composed of silica particles or alumina particles, which are all substantially in the alpha phase, preferably at least 90% or 100% of the particles in the alpha phase. The taught particles have an average particle size in the range of 10-100 nm, preferably 10-50 nm. This range overlaps the claimed range. The references teach the particles have a distribution where all the particles have sizes, which fall within 10-50% of the average particle size, which is the taught P value. This means that all the particles are within the range of P% of the average particle size and (100+P)% of the average particles size. This teaching is clearly exemplified by examples 1 and 3 of both references and in claims 2 and 3 of Rostoker. The references clearly suggest the claimed composition and methods.

Applicants' argument with respect to this rejection are noted but are not convincing since their arguments with respect to the 102(b and e) rejection of these references were not convincing. The rejection is maintained.

The declaration under 37 CFR 1.132 filed 21 December 2001 is insufficient to overcome the rejection of claims 1, 2, 4, 6-9, 12, 15, 23 and 25 based upon Rostoker et al and Rostoker as set forth in the last Office action for the reasons given above.

Art Unit: 1755

Claims 1-4, 6, 15 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al in view of Gutsche, Rostoker et al or Rostoker.

Sandhu et al teach a method of smoothing a surfacing using a chemical-mechanic polishing composition comprising alumina or silica abrasive particles dispersed in either an aqueous or a nonaqueous solution. Sandhu et al do not teach the particle size characteristics for the taught abrasive particles. One of ordinary skill in the art would have found it obvious to use conventional chemical mechanical abrasive particles as the abrasive particles in the taught method. Gutsche, Rostoker et al and Rostoker all teach conventional chemical mechanical abrasive particles. Therefore, one of ordinary skill in the art would have found it obvious to use the particles of these references as the particles in the composition of Sandhu et al. These particles in Gutsche, Rostoker et al and Rostoker all have particle size characteristics, which fall within or overlap the claimed size characteristics. The references suggest the claimed compositions and processes.

Applicants states on page 8 of the response that the deficiencies of Sandhu et al are described in detail above, but this section of the response is the first section to mention Sandhu et al by name. Accordingly, the rejection is maintained since there are no arguments on the record presented to overcome this rejection.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114.

Art Unit: 1755

See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

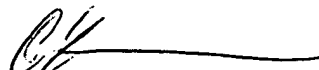
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (703) 308-3817. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (703) 308-3823.

The fax number for Amendments filed under 37 CFR 1.116 or After Final communications is (703) 872-9311. The fax number for all other official communications is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661 or (703) 308-0662.

cmk
October 25, 2002


C. Melissa Koslow
Primary Examiner
Tech. Center 1700